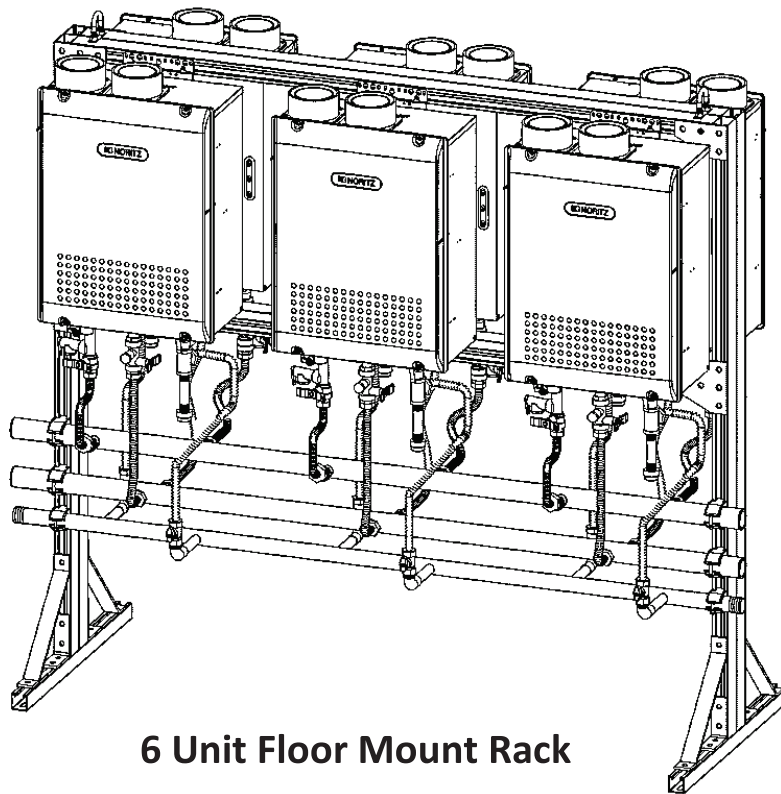



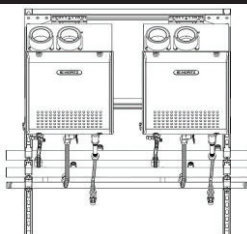

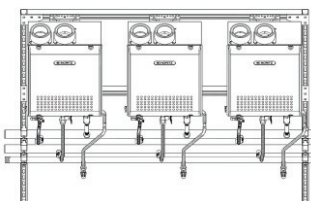


Commercial Water Heating System (CWHS) Specifications

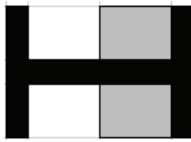
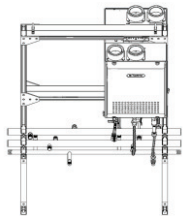
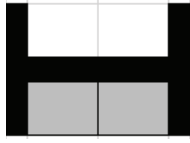
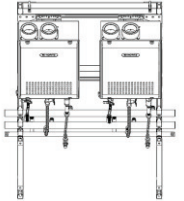
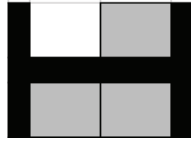
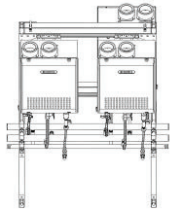
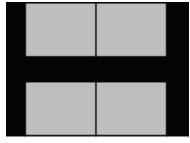
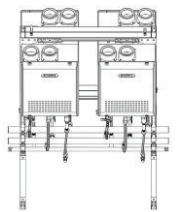
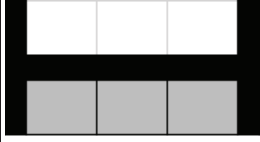
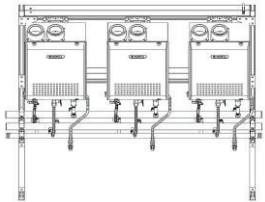
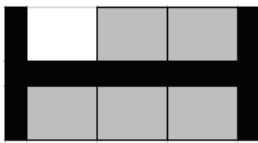
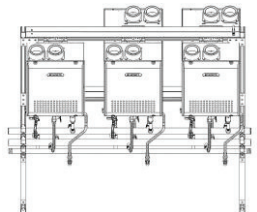
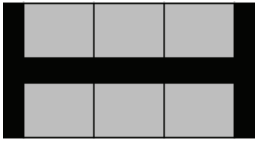
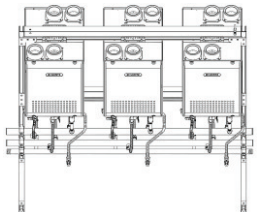


6 Unit Floor Mount Rack

Commercial Water Heating System Wall Mount

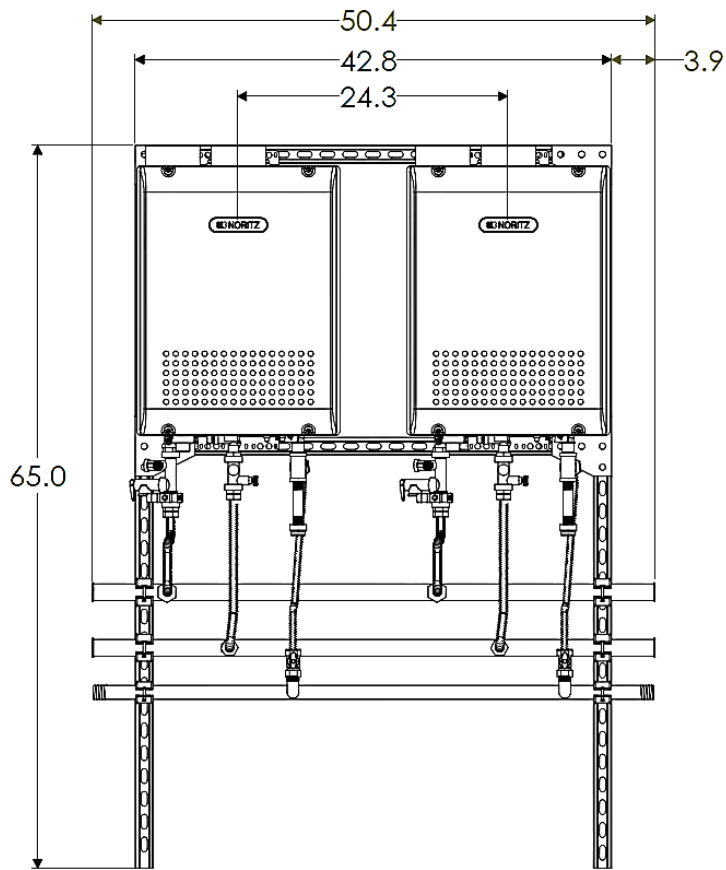
Model Number	Rack Type	Configuration	Illustration
CWHS101	2 Unit OD Wall Mount Rack, LP		
CWHS201	2 Unit OD Wall Mount Rack, NG		
CWHS301	2 Unit DV Wall Mount Rack, LP		
CWHS401	2 Unit DV Wall Mount Rack, NG		
CWHS102	3 Unit OD Wall Mount Rack, LP		
CWHS202	3 Unit OD Wall Mount Rack, NG		
CWHS302	3 Unit DV Wall Mount Rack, LP		
CWHS402	3 Unit DV Wall Mount Rack, NG		

Commercial Water Heating System Floor Mount

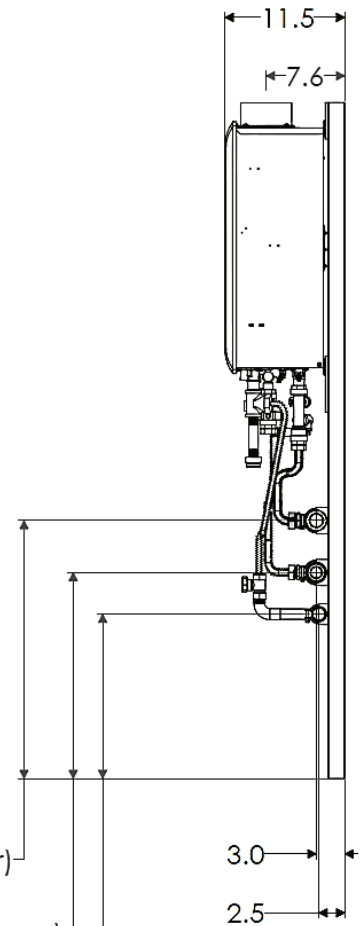
Model Number	Rack Type	Configuration	Illustration
CWHS103	2 Unit Back to Back OD Floor Mount, LP		
CWHS203	2 Unit Back to Back OD Floor Mount, NG		
CWHS303	2 Unit Back to Back DV Floor Mount, LP		
CWHS403	2 Unit Back to Back DV Floor Mount, NG		
CWHS104	2 Unit OD Floor Mount, LP		
CWHS204	2 Unit OD Floor Mount, NG		
CWHS304	2 Unit DV Floor Mount, LP		
CWHS404	2 Unit DV Floor Mount, NG		
CWHS105	3 Unit OD Floor Mount, LP		
CWHS205	3 Unit OD Floor Mount, NG		
CWHS305	3 Unit DV Floor Mount, LP		
CWHS405	3 Unit DV Floor Mount, NG		
CWHS106	4 Unit OD Floor Mount, LP		
CWHS206	4 Unit OD Floor Mount, NG		
CWHS306	4 Unit DV Floor Mount, LP		
CWHS406	4 Unit DV Floor Mount, NG		
CWHS107	3 Unit OD Floor Mount, LP		
CWHS207	3 Unit OD Floor Mount, NG		
CWHS307	3 Unit DV Floor Mount, LP		
CWHS407	3 Unit DV Floor Mount, NG		
CWHS108	5 Unit OD Floor Mount, LP		
CWHS208	5 Unit OD Floor Mount, NG		
CWHS308	5 Unit DV Floor Mount, LP		
CWHS408	5 Unit DV Floor Mount, NG		
CWHS109	6 Unit OD Floor Mount, LP		
CWHS209	6 Unit OD Floor Mount, NG		
CWHS309	6 Unit DV Floor Mount, LP		
CWHS409	6 Unit DV Floor Mount, NG		

2 Unit Commercial Water Heating Systems Wall Mount				
Model	CWHS101	CWHS201	CWHS301	CWHS401
Water Heater	NCC199OD		NCC199DV	
Gas Type	LP	NG	LP	NG
System Dimension	51 (W) x 12(D) x 65 (H)			
Fully Assembled Weight (lbs.)	203			
Shipping Weight (lbs.)	324			
Frame Specifications				
Frame Rail Type	1 5/8” Square Slot Metal			
Frame Material	14 gauge Aluminum			
Frame Finish	Aluminum			
Color	Aluminum			
Water & Gas Connections				
Hot Water Trunk Line Diameter (in)	1 ½			
Cold Water Trunk Line Diameter (in)	1 ½			
Hot Water Trunk Line Material	Type L Copper (Rigid)			
Cold Water Trunk Line Material	Type L Copper (Rigid)			
Water Connection Type	Pipe			
Gas Trunk Line Diameter (in)	1 ¼			
Gas Trunk Line Material	Powder Coated Sch 40 Steel			
Gas Branch Line Material	PVC over CSST			
Gas Trunk Line Connection Type	Male NPT			
Electrical Specifications				
Voltage	120VAC (60 Hz)			
Max Current Draw (amp)	8			
System Performance				
Quantity of Units	2			
Hot Water Capacity @ 30°F rise (GPM)	22.2			
Hot Water Capacity @ 70°F rise (GPM)	10.6			
Hot Water Capacity @ 100°F rise (GPM)	7.4			
Minimum (Btuh)	16,000			
Maximum (Btuh)	399,800			

2 Unit Drawing Illustration / Dimensions



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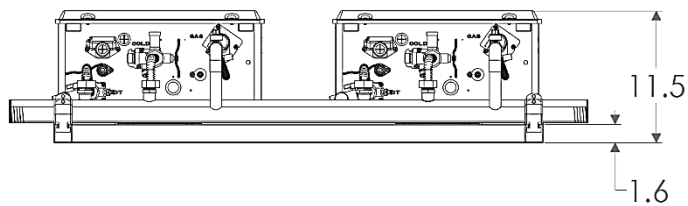


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25.0 HOT (1-1/2" Copper)

20.0 COLD (1-1/2" Copper)

16.0 GAS (1-1/4" Black Iron)

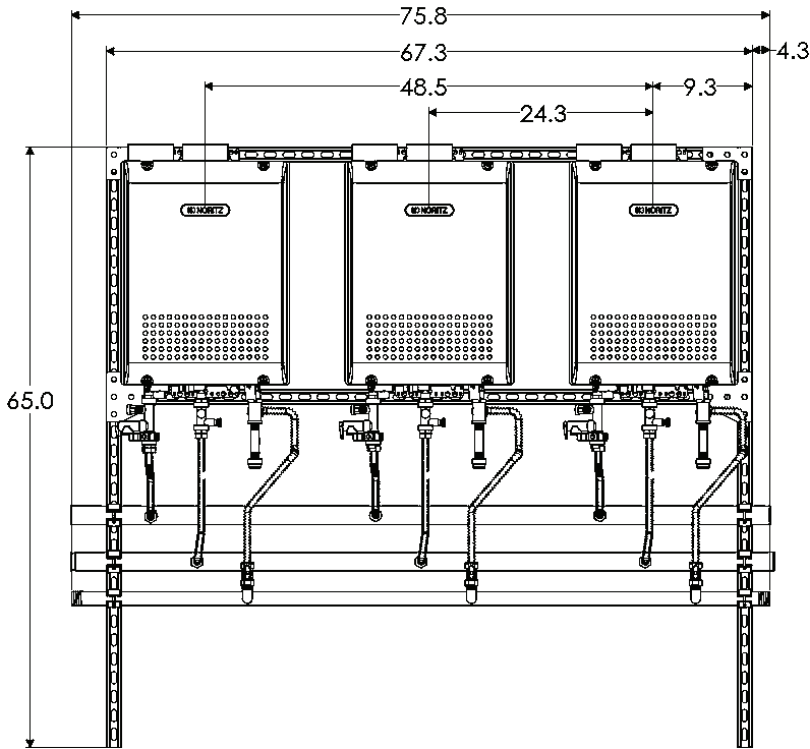


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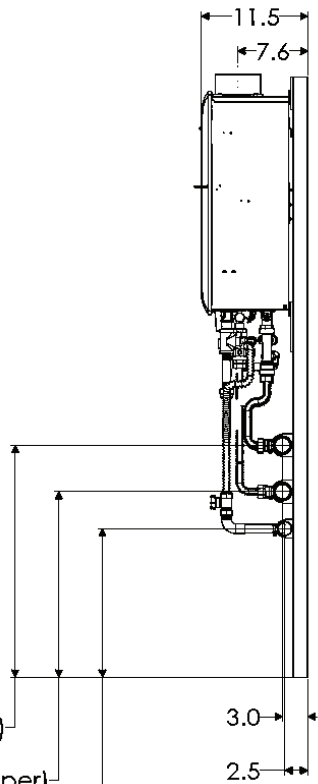
**All Units are in inches*

3 Unit Commercial Water Heating Systems Wall Mount				
Model	CWHS102	CWHS202	CWHS302	CWHS402
Water Heater	NCC199OD		NCC199DV	
Gas Type	LP	NG	LP	NG
System Dimension	76 (W) x 12(D) x 65 (H)			
Fully Assembled Weight (lbs.)	301			
Shipping Weight (lbs.)	443			
Frame Specifications				
Frame Rail Type	1 5/8” Square Slot Metal			
Frame Material	14 gauge Aluminum			
Frame Finish	Aluminum			
Color	Aluminum			
Water & Gas Connections				
Hot Water Trunk Line Diameter (in)	2			
Cold Water Trunk Line Diameter (in)	2			
Hot Water Trunk Line Material	Type L Copper (Rigid)			
Cold Water Trunk Line Material	Type L Copper (Rigid)			
Water Connection Type	Pipe			
Gas Trunk Line Diameter (in)	1 ¼			
Gas Trunk Line Material	Powder Coated Sch 40 Steel			
Gas Branch Line Material	PVC over CSST			
Gas Trunk Line Connection Type	Male NPT			
Electrical Specifications				
Voltage	120VAC (60 Hz)			
Max Current Draw (amp)	12			
System Performance				
Quantity of Units	3			
Hot Water Capacity @ 30°F rise (GPM)	33.3			
Hot Water Capacity @ 70°F rise (GPM)	15.9			
Hot Water Capacity @ 100°F rise (GPM)	11.1			
Minimum (Btuh)	16,000			
Maximum (Btuh)	599,700			

3 Unit Drawing Illustration / Dimensions

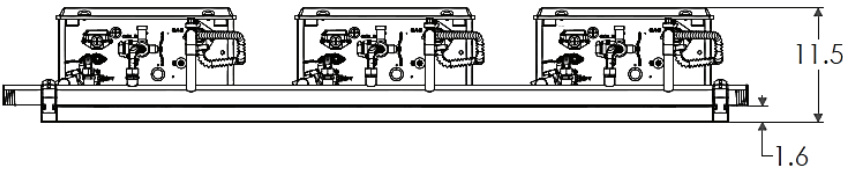


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25.0 HOT (2" Copper)
 20.0 COLD (2" Copper)
 16.0 GAS (1-1/4" Black Iron)

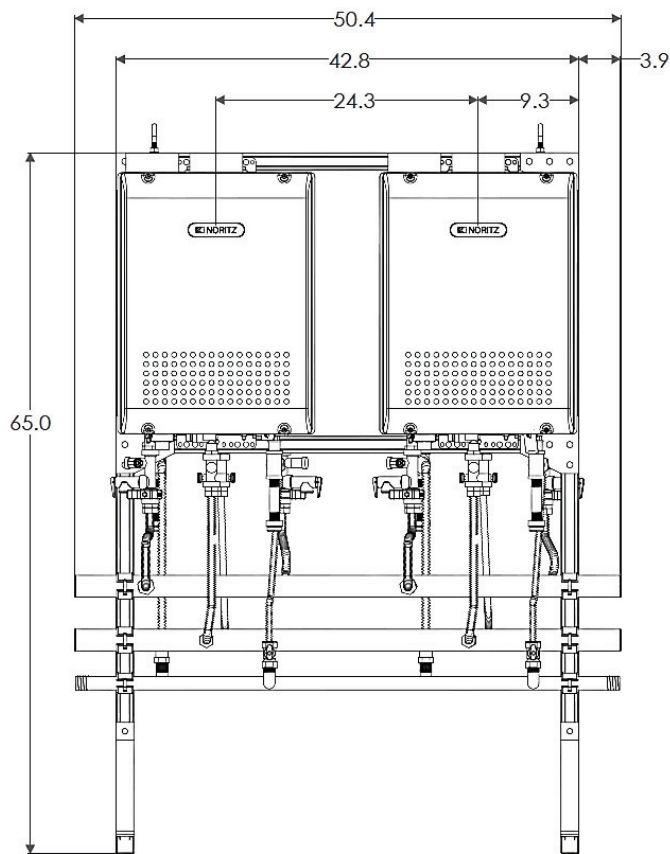


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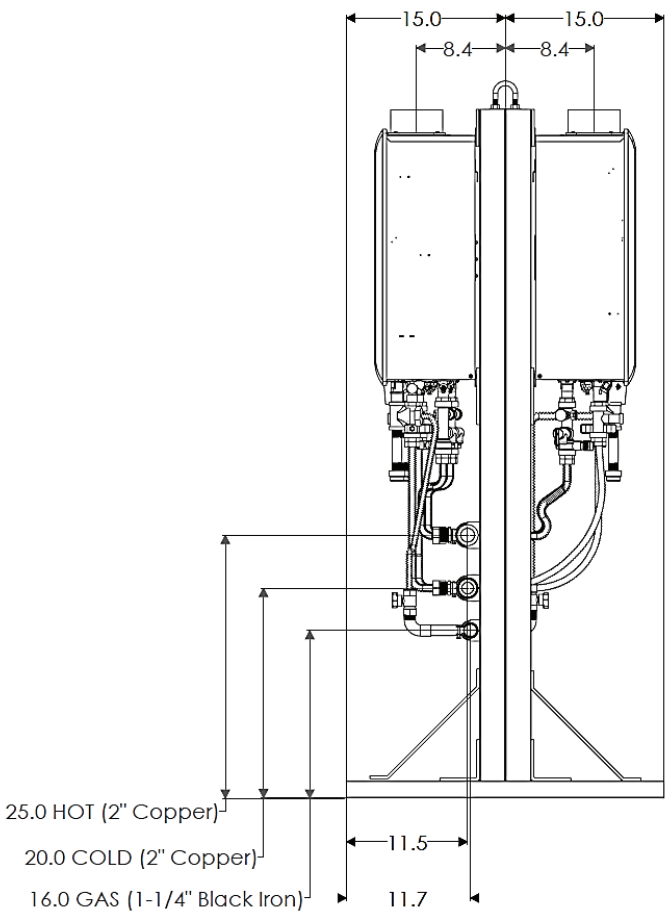
**All Units are in inches*

4 Unit Commercial Water Heating Systems Floor Mount			
Model	CWHS103 CWHS104 CWHS203 CWHS204 CWHS303 CWHS304 CWHS403 CWHS 404	CWHS105 CWHS205 CWHS305 CWHS405	CWHS106 CWHS206 CWHS306 CWHS406
Water Heater	NCC199OD: 103, 104, 105, 106, 203, 204, 205, 206 NCC199DV: 303, 304, 305, 306, 403, 404, 405, 406		
Gas Type	LP: 103, 104, 105, 106, 303, 304, 305, 306 NG: 203, 204, 205, 206, 403, 404, 405, 406		
System Dimension	51 (W) x 30(D) x 65 (H)		
Fully Assembled Weight (lbs.)	262	341	420
Shipping Weight (lbs.)	391	480	549
Frame Specifications			
Frame Rail Type	1 5/8" x 4 7/8" Slot Metal		
Frame Material	14 gauge Aluminum		
Frame Finish	Aluminum		
Color	Aluminum		
Water & Gas Connections			
Hot Water Trunk Line Diameter (in)	2		
Cold Water Trunk Line Diameter (in)	2		
Hot Water Trunk Line Material	Type L Copper (Rigid)		
Cold Water Trunk Line Material	Type L Copper (Rigid)		
Water Connection Type	Pipe		
Gas Trunk Line Diameter (in)	1 ¼		
Gas Trunk Line Material	Powder Coated Sch 40 Steel		
Gas Branch Line Material	PVC over CSST		
Gas Trunk Line Connection Type	Male NPT		
Electrical Specifications			
Voltage	120VAC (60 Hz)		
Max Current Draw (amp)	8	12	16
System Performance			
Quantity of Units	2	3	4
Hot Water Capacity @ 30°F rise (GPM)	22.2	33.3	44.4
Hot Water Capacity @ 70°F rise (GPM)	10.6	15.9	21.2
Hot Water Capacity @ 100°F rise (GPM)	7.4	11.1	14.8
Minimum (Btuh)	16,000	16,000	16,000
Maximum (Btuh)	399,800	599,700	799,600

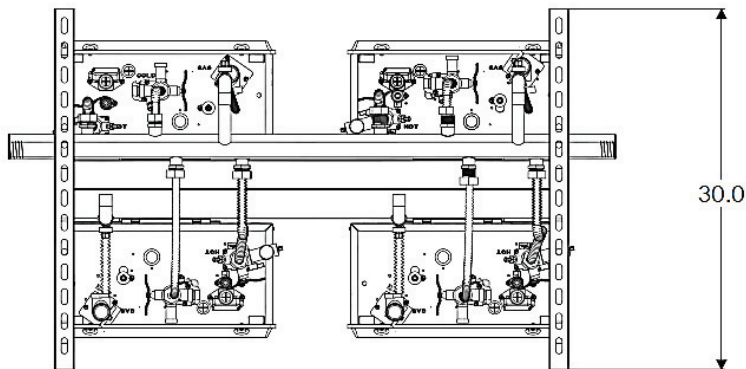
4 Unit Drawing Illustration / Dimensions



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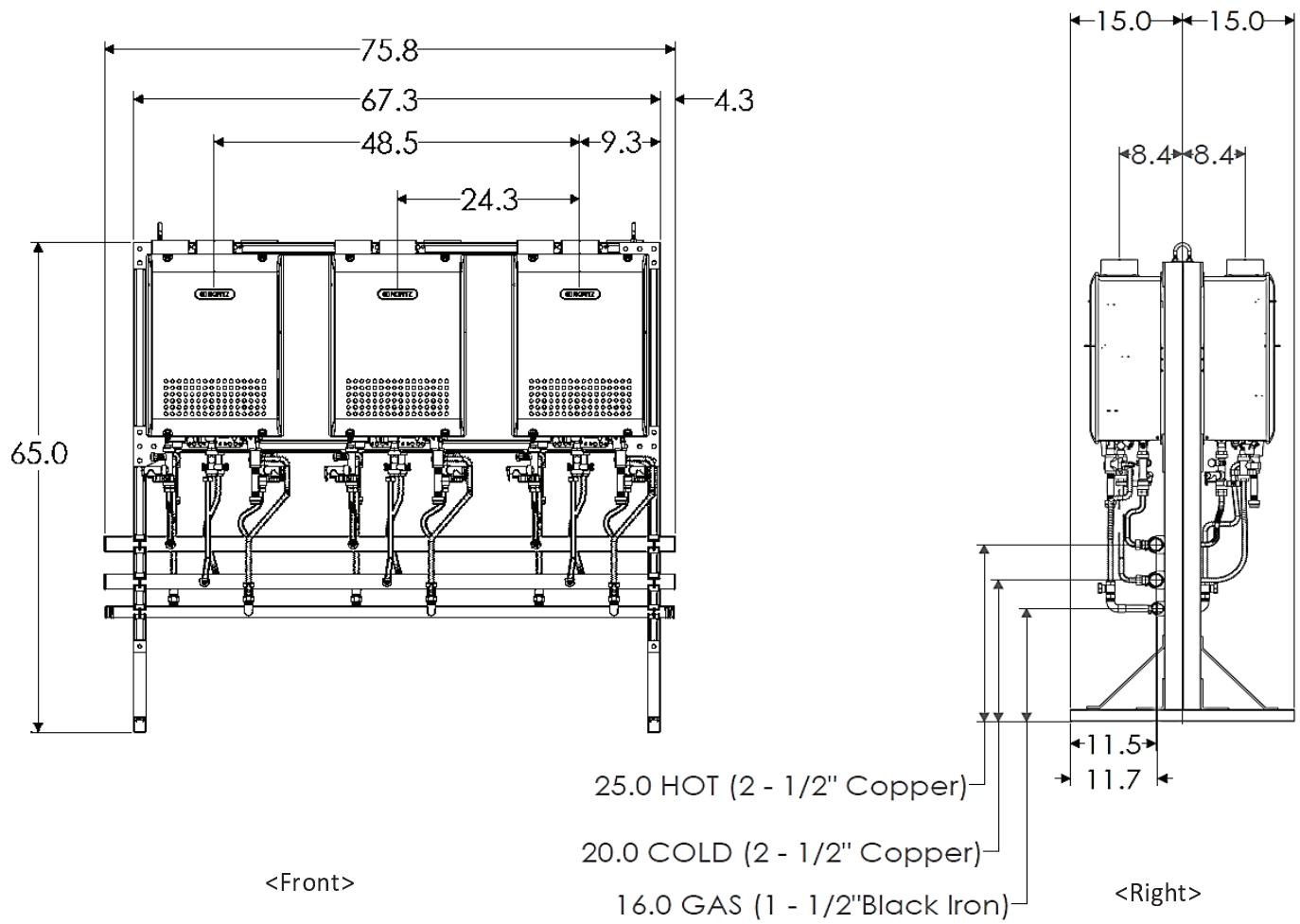


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**All Units are in inches*

6 Unit Commercial Water Heating Systems Floor Mount			
Model	CWHS107 CWHS207 CWHS307 CWHS407	CWHS108 CWHS208 CWHS308 CWHS408	CWHS109 CWHS209 CWHS309 CWHS409
Water Heater	NCC199OD: 107, 108, 109, 207, 208, 209 NCC199DV: 307, 308, 309, 407, 408, 409		
Gas Type	LP: 107, 108, 109, 307, 308, 309 NG: 207, 208, 209, 407, 408, 409		
System Dimension	76 (W) x 30 (D) x 65 (H)		
Fully Assembled Weight (lbs.)	352	519	598
Shipping Weight (lbs.)	500	667	746
Frame Specifications			
Frame Rail Type	1 5/8" x 4 7/8" Slot Metal		
Frame Material	14 gauge Aluminum		
Frame Finish	Aluminum		
Color	Aluminum		
Water & Gas Connections			
Hot Water Trunk Line Diameter (in)	2 ½		
Cold Water Trunk Line Diameter (in)	2 ½		
Hot Water Trunk Line Material	Type L Copper (Rigid)		
Cold Water Trunk Line Material	Type L Copper (Rigid)		
Water Connection Type	Pipe		
Gas Trunk Line Diameter (in)	1 ½		
Gas Trunk Line Material	Powder Coated Sch 40 Steel		
Gas Branch Line Material	PVC over CSST		
Gas Trunk Line Connection Type	Male NPT		
Electrical Specifications			
Voltage	120VAC (60 Hz)		
Max Current Draw (amp)	12	20	24
System Performance			
Quantity of Units	3	5	6
Hot Water Capacity @ 30°F rise (GPM)	33.3	55.5	66.6
Hot Water Capacity @ 70°F rise (GPM)	15.9	26.5	31.8
Hot Water Capacity @ 100°F rise (GPM)	11.1	18.5	22.2
Minimum (Btuh)	16,000	16,000	16,000
Maximum (Btuh)	599,700	999,500	1,199,400

6 Unit Drawing Illustration / Dimensions



**All Units are in inches*

Multi System Controller

- Each CWHS includes a pre-installed system controller (SC-301-6M).
- Each CWHS includes a pre-wired remote controller (RC-9018). Remote can be extended up to 300'.
- User selectable temperature from 100-185°F

● Basic Operation

The SC-301-6M system controller is used to combine 1 to 6 Noritz heaters into a single “multi-unit system” The system controller stages units on and off based on hot water demand and rotates their operation to ensure even usage. It also has two additional modes which optimize the system for operation with a recirculation line or storage tank.

(Note: for systems of 7-12 units please use the SCU-301-12M system controller)

● Unit Staging

Staging allows the multi-unit system to track hot water demand from the minimum flow rate of a single unit up to the maximum output of several units. When the primary firing heater reaches ~50% of its maximum output, the system controller activates the next unit in the system. When both these units reach ~50% of their maximum output, a third unit is activated and so on. The SC-301-6M may also be configured to activate two heaters during primary firing to allow for rapid initial hot water demand.

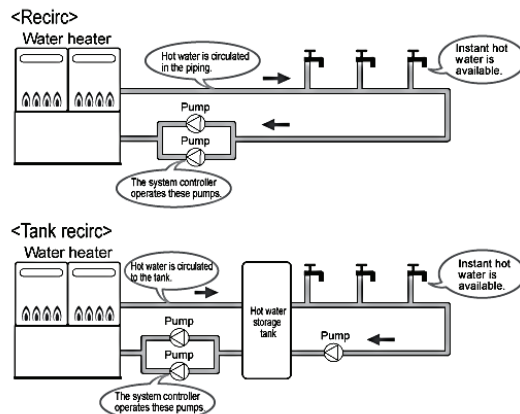
● Unit Rotation

The SC-301-6M system controller rotates operation of the primary firing heater every 8 hours of combustion time or up to 24 hours of plug-in time. This helps to ensure even usage of all units.

UNIT1	UNIT2	UNIT3	UNIT4	UNIT5	UNIT6
1st	2nd	3rd	4th	5th	6th
Rotation					
6th	1st	2nd	3rd	4th	5th
Rotation					
5th	6th	1st	2nd	3rd	4th
Rotation					
4th	5th	6th	1st	2nd	3rd

● System Selection

The SC-301-6M allows the user to select two additional system types: “Recirc” and “Tank recirc.” These settings optimize performance with recirculation and storage tank systems, and allow the system controller to operate one or two pumps.



* These diagrams are for illustration purposes only.